

Exploring

NEW TECHNOLOGIES FOR CLEAN AIR: Zero and Near-Zero Emission Technologies

October 5 through October 7, 1999

SPONSORED BY:
CALIFORNIA AIR RESOURCES BOARD
CALIFORNIA AIR POLLUTION CONTROL
OFFICERS ASSOCIATION
U.S. ENVIRONMENTAL PROTECTION AGENCY

*Beckman Center
National Academies of
Science & Engineering
100 Academy Way
Irvine, California*

California Environmental Protection Agency
 **Air Resources Board**

EXPLORING NEW TECHNOLOGIES FOR CLEAN AIR

The California Air Resources Board (ARB), the California Air Pollution Control Officers Association (CAPCOA) and the U.S. Environmental Protection Agency (U.S. EPA) invite you to participate in *Exploring New Technologies for Clean Air: Zero and Near-Zero Emission Technologies*. At the Symposium you will hear about emerging technologies that will help meet California's comprehensive air quality goals to reduce ozone, particulate matter, exposure to toxics, the regional haze that impairs visibility, and greenhouse gases that contribute to global warming.

California's clean air achievements are built on the development and commercialization of new environmental technologies. Further progress depends on the use of zero and near-zero emission technologies on virtually all types of sources. Our roadmap for clean air, the 1994 California State Implementation Plan (SIP) for Ozone, relies on the use of advanced technologies to meet our air quality commitments. The Symposium provides a forum, outside of a regulatory arena, to identify promising technologies and creative strategies to meet California's clean air goals. Air agencies will offer a preview of potential options for new statewide control strategies in the next SIP.

Technical Sessions: Participants will hear ideas directly from leading technology developers, manufacturers, policy makers, scientists, engineers, and researchers on the development status, timing, and mechanisms for deployment of zero and near-zero emission technologies:

- *Ultra-Low Emission Trucks and Buses*
- *Off-Road Vehicles and Equipment*
- *Zero and Near-Zero Emission Passenger Vehicles*
- *Making Mobile Source Strategies Work*
- *Cleaner Energy Generation Technologies*
- *Emerging VOC Related Technologies*

Poster Opportunity: Limited space will be available for registered non-speaker attendees to provide a poster presentation of zero and near-zero emission technologies pertinent to each day's sessions. Poster presentations will be selected based on the relevance and potential of the technology to address California's air quality goals. Space is limited to approximately five posters of 20" x 24" per day. Please contact us if you are interested in a poster presentation.

For questions on the program and poster presentations call Dr. Patricia Velasco, Planning and Technical Support Division, ARB at (916) 323-7560 or send an e-mail to pvelasco@arb.ca.gov.

DIRECTIONS AND ACCOMMODATIONS

• **Location**—*Exploring New Technologies for Clean Air: Zero and Near-Zero Emission Technologies* will be held at the Beckman Center, 100 Academy Way, adjacent to the University of California, Irvine. The Center is accessible to persons with disabilities.

• **Parking**—Parking at the Beckman Center is limited to 170 spaces. Street parking is prohibited. Attendees are encouraged to carpool when possible.

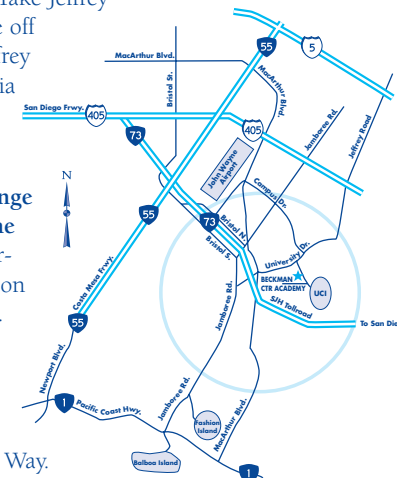
• **Travel from the Los Angeles or Inland Areas**—*From Los Angeles:* take Interstate 405 south to Highway 73 south. *From Riverside or other Inland areas:* take the appropriate freeway to the 55 Freeway south to Highway 73 south. Take University Drive exit and turn left onto University Drive, right on California Avenue, and right at Academy Way.

• **Travel from the San Diego Area**—take Interstate 5 north to Interstate 405 north. Take Jeffrey Road/University Drive off ramp, turn left on Jeffrey Road, left on California Avenue, and right at Academy Way.

• **Directions from Orange County Airport to the Center**—From the airport, exit to the right on MacArthur Boulevard. Turn left on Campus Drive, turn right on University Drive, left on California Avenue, and right at Academy Way.

• **Nearby Accommodations**—The following hotels have a limited number of rooms at special rates. Please mention the name of the conference when making your reservation. All have complimentary shuttle service to and from the Orange County Airport. Please contact the hotels directly for rates and reservations.

Country Side Inn—Costa Mesa: (714) 549-0300
Embassy Suites—Irvine: (949) 553-8332
Hyatt Regency—Irvine: (949) 975-1234



DAY 1—MOBILE SOURCES

October 5, 1999

Registration & Breakfast: 8:30 a.m.

- 9:30 A.M. WELCOME
- Michael P. Kenny, Executive Officer, ARB
- 9:40 A.M. OPENING REMARKS
- Alan Lloyd, Ph.D., Chairman, ARB
 - Doug Allard, President, CAPCOA
 - David Howekamp, Air Division Director, Region IX, U.S. EPA

10:10 A.M. HEALTH EFFECTS OF AIR POLLUTION

The ultimate goal of air quality programs is to protect public health. This presentation will highlight emerging work on the long-term effects of air pollutants and the mechanisms by which these pollutants cause harm.

- 10:30 A.M. IMPORTANCE OF REDUCING EMISSIONS FROM HEAVY-DUTY VEHICLES
- Tom Cackette, Chief Deputy Executive Officer, ARB
 - Chet France, Engine Programs and Compliance Division Director, U.S. EPA

Diesel engines are major sources of NOx and particulates, including toxic compounds. NOx emissions from new diesel truck engines will be cut in half in 2004. In this session ARB and U.S. EPA will define the next challenge, achieving 0.5 g/bhp-hr NOx and 0.01 g/bhp-hr particulate emission levels—which may require the use of ultra-low sulfur diesel fuel.

11:00 A.M. FEATURED SPEAKER: (to be announced)

LUNCH

- 1:00 P.M. SESSION I—ULTRA-LOW EMISSION TRUCKS AND BUSES
- Session I will take a broad look at technologies to meet the new challenge to further cut NOx and particulate emissions. Discussion topics will span advanced engine configurations, alternative fuels and aftertreatment.

For specific speakers and topics, see ARB's web page at www.arb.ca.gov/sip/techsymp/techsymp.htm

DAY 2—MOBILE SOURCES

October 6, 1999

Registration & Breakfast: 7:45 a.m.

- 8:30 A.M. SESSION II—OFF-ROAD VEHICLES AND EQUIPMENT: TRANSFERRING TECHNOLOGY
- The contribution of off-road mobile sources to California air pollution will grow significantly in coming years. Session II will explore the unique challenges of applying advanced emission control technologies to off-road sources ranging from forklifts to construction equipment.

- 10:15 A.M. SESSION III—ZERO AND NEAR-ZERO EMISSION PASSENGER VEHICLES
- Electric vehicles are here today. Session III looks beyond these successes toward tomorrow's zero emission and near-zero emission passenger cars. From advanced batteries to hybrids and fuel cells, this session will explore the family of zero and near-zero emission technologies for the passenger vehicle fleet of the 21st century.

LUNCH

- 2:00 P.M. SESSION IV—MAKING MOBILE SOURCE STRATEGIES WORK
- Key to making advanced technologies effective will be their successful commercialization and use. Session IV will explore ways to ensure early application of the cleanest technologies for all mobile source categories including development funding, incentives, accelerated turnover, retrofit, and infrastructure.

For specific speakers and topics, see ARB's web page at www.arb.ca.gov/sip/techsymp/techsymp.htm

DAY 3—STATIONARY & AREA SOURCES

October 7, 1999

Registration & Breakfast: 7:45 a.m.

- 8:30 A.M. OPENING REMARKS
- 8:45 A.M. SESSION V—CLEANER ENERGY GENERATION TECHNOLOGIES
- Stationary source combustion processes continue to represent an important source of NOx, SOx, particulate matter, and toxic emissions in California. Session V will focus on technologies that lead to lower emitting stationary diesel engines, gas turbines, and boilers. This session will also address the application of fuel cells to stationary sources.

LUNCH

- 1:15 P.M. SESSION VI—EMERGING VOC RELATED TECHNOLOGIES
- Coatings and solvents that release volatile organic compounds (VOCs) are used in many applications that touch our lives each day. Current emission reduction strategies include product modifications and control equipment such as spray booths. Session VI will focus on emerging technologies that have the potential to further reduce VOC emissions from coatings and solvents.

For specific speakers and topics, see ARB's web page at www.arb.ca.gov/sip/techsymp/techsymp.htm

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October 5 through October 7, 1999
Beckman Center, Irvine, California

REGISTRATION FORM

NAME: _____

TITLE: _____

COMPANY: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP CODE: _____

PHONE: (____) _____ FAX: (____) _____

E-MAIL: _____

REGISTRATION FEES: The registration fee includes attendance at the requested daily sessions, buffet breakfast and lunch, and one copy of the proceedings.

___ \$200.00	October 5 – October 7 (All 3 Days)
___ \$ 80.00	October 5 (1 Day)
___ \$ 80.00	October 6 (1 Day)
___ \$ 80.00	October 7 (1 Day)
\$ _____	Total

Mail the registration form and a check (payable to “CAPCOA”) by September 17, 1999 to:

AIR RESOURCES BOARD
PLANNING AND TECHNICAL SUPPORT DIVISION
P.O. BOX 2815
SACRAMENTO, CA 95812
ATTENTION: SHARON ANDERSON

Attendance is limited to 250. Advance payment is required to secure your reservation. Registrations may be accepted at the Symposium, depending upon space availability. If you would like to check on space availability or have questions regarding registration please contact Ms. Sharon Anderson (916) 323-6576 or e-mail sanderso@arb.ca.gov. If you have special accommodation needs under the Americans with Disabilities Act, please contact Ms. Anderson in advance at the above telephone number or TDD (916) 324-9531 to make arrangements. Use (800) 700-8326 for TDD calls from outside the Sacramento area.